

What is claimed is

1. A method for integrating anatomical information from a plurality of sources of information, comprising:

receiving two or more three dimensional (3D) anatomical maps sharing a
5 common plane specified by three or more marker points common to the two or more maps;

placing one or more marker points on one or more teeth;

generating a digital model of the teeth with the marker points; and

aligning the two or more 3D anatomical maps and the digital teeth model using
10 the marker points.

2. The method of claim 1, wherein the anatomical information is stereo craniofacial data.

15 3. The method of claim 1, wherein one of the anatomical map is an X-ray map.

4. The method of claim 3, wherein the X-ray map is generated using correlated points on X-ray pairs and using y-parallax measurements.

20 5. The method of claim 3, wherein the X-ray information is stereo.

6. The method of claim 3, further comprising calibrating one or more X-ray sources.

7. The method of claim 6, further comprising determining a principal distance from
25 an X-ray source to a film plane.

8. The method of claim 6, further comprising characterizing internal dimensions of the one or more X-ray sources by locating an X-ray film relative to an X-ray source.

30 9. The method of claim 1, wherein one of the anatomical map is a 3D image map.

10. The method of claim 1, wherein the placing of the markers further comprises wearing a dental appliance with one or more marker points.

11. The method of claim 1, wherein each marker is a tie point.

12. The method of claim 1, wherein the aligning uses discrete anatomical landmark information.

13. The method of claim 1, further comprising displaying the aligned maps as an integrated 3D anatomical model.

14. A method for visualizing anatomical information from a plurality of sources, comprising:

wearing a dental appliance with one or more teeth markers;

receiving X-ray information having X-ray marker information;

receiving a three-dimensional anatomical information having anatomical marker information;

aligning the X-ray information, 3D anatomical information, and the 3D teeth model using the marker information; and

displaying the aligned X-ray information, 3D anatomical information, and the 3D teeth model.

15. A system, comprising:

an appliance with one or more teeth markers embedded therein;

an X-ray camera receiving X-ray information with X-ray marker information;

a three-dimensional digital camera receiving three-dimensional anatomical information with anatomical marker information;

a dental scanner to generate a three-dimensional teeth model with teeth marker information;

a computer to align the X-ray information, 3D anatomical information, and the 3D teeth model using the marker information.

16. The system of claim 15, wherein the X-ray information is stereo.

17. The system of claim 15, further comprising a calibration array to calibrate the X-
5 ray camera.

18. The system of claim 15, further comprising an X-ray cassette carrier.

19. The system of claim 15, wherein each marker is a tie point.

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20. The system of claim 15, wherein the appliance comprises a polymeric shell
having cavities and wherein the cavities of the shell have different geometries shaped to
receive teeth.